REMARKS

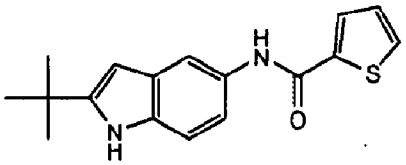
Status of the Claims

No claims have been amended. Claims 25, 28 – 34, and 38 – 46 are presently pending.

Rejections under 35 U.S.C. §102 (b)

(a) Claims 25, 28, 29, 42 – 46 over Peakdale catalog compound from IDS

Claims 25, 28, 29, 42 – 46, directed to ***compositions*** comprising a pharmaceutically acceptable carrier, excipient, or diluent together with a compound as defined by the formula in Claim 25, currently stand rejected in light of the ***compound***,



as disclosed in the Peakdale catalog and as disclosed in the IDS filed on 9/20/2007.

In the present action, the Office has alleged that the preceding compound reads on the present claims when L^{11} is a bond; R^{11} is H; R^{33} is H; R^{44} is an optionally substituted monocyclic heteroaryl; and R^{22} is a t-butyl group. Furthermore, the Office has alleged that according to a statement from Peakdale, Inc. ("Peakdale communication", emphasis in Office action), "the company … sent advertisement flier of the Compound 281 to their potential customer on 1990s for drug screening purpose in drug discovery research." On the basis of the preceding interpretation of the Peakdale communication, the Office has cited the generic disclosure of the use of a buffer solution for drug screening of pharmaceutical discovery compounds in Wabnitz (*Rapid Commun. Mass Spec.* **2002**, *16*, 85-91) to allege that the present composition claims are inherently anticipated by the Peakdale catalog.

First, while the applicants acknowledge that a second reference may be used in a 102 rejection to establish that the teachings of a primary reference anticipate a claim, that is not the situation here. Wabnitz discloses use of a buffer solution for drug screening purposes generally. But Wabnitz does not teach that **the Peakdale catalog** discloses compounds in a buffer solution. There is no evidence that the Peakdale catalog teaches (expressly or inherently) compounds as

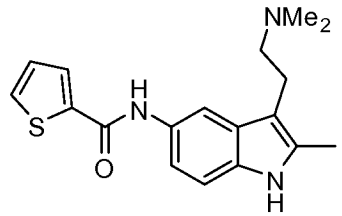
recited in the present claims together with a pharmaceutically acceptable carrier, excipient, or diluent

In response to the Office's request for copies of the relevant Peakdale catalog pages, Applicants have been able to obtain copies of the same along with a communication from Peakdale confirming that the pages provided herewith are true copies of the pages sent to their potential customers in the 1990s. As can be clearly see, the pages only show chemical structures, catalog numbers, molecular formulae, molecular weights, and melting points of the family of compounds.

In view of the foregoing, the applicants submit that the present rejection is improper for failing to expressly or inherently disclose all the present claim limitations. Applicants respectfully request reconsideration and withdrawal of the rejection.

(b) <u>Claims 25, 28, 29, 42 – 46 over Fritz et al. (US Patent No. 5,998,630)</u>

Claims 25, 28, 29, 42 – 46 currently stand rejected in light of the compound,



as disclosed in Fritz. In the present action, the Office has alleged that the preceding compound reads on the present claims when L^{11} is a bond; R^{11} is H; R^{22} is C_{1-6}alkyl; R^{33} is H or ***C_{1-3}alkyl***; and R^{44} is an optionally substituted C_{3-6} monocyclic heteroaryl group.

The Office has claimed that since there is "no definition in the specification of the term 'C_{1-3}alkyl'," that the "broadest possible interpretation in light of the specification according to paragraph [0077], which defines alkyl group as optionally substituted under 'heteroarylalkyl'." Applicants respectfully traverse.

Applicants note that according to MPEP 2111.01 (II), (emphasis added)

> "[T]he ordinary and customary meaning of a claim term is the meaning that the term would have to a **<u>person of ordinary skill in the art in question at the time of the invention</u>**, *i.e.*, as of the effective filing date of the patent application." *Phillips v. AWH Corp.*, *>415 F.3d 1303, 1313<, 75 USPQ2d 1321>, 1326< (Fed. Cir. 2005) (*en banc*). *Sunrace Roots Enter. Co. v. SRAM Corp.*, 336 F.3d 1298, 1302, 67 USPQ2d 1438, 1441 (Fed. Cir. 2003); *Brookhill-Wilk 1, LLC v. Intuitive Surgical, Inc.*, 334 F.3d 1294, 1298 67 USPQ2d 1132, 1136 (Fed. Cir. 2003)

> The ordinary and customary meaning of a term may be evidenced by a variety of sources, including "**the words of the claims themselves, the remainder of the specification**, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art."<*Phillips v. AWH Corp.*, *>415 F.3d at 1314<, 75 USPQ2d **>at 1327.<

In the present case, the specification states at paragraph [0068], emphasis added,

> As employed herein, ***when a moiety*** (e.g., cycloalkyl, hydrocarbyl, aryl, heteroaryl, heterocyclic, urea, etc.) is described as "optionally substituted" it is meant that the group optionally has from one to four, preferably one to three, more preferably one to two, non-hydrogen substituents.

Applicants submit that the specification clearly states that the term "optionally substituted" only applies to a term, such as "alkyl," **when** the moiety is so named (e.g., "optionally substituted C_1-$_6$alkyl").

R^{33} as presently claimed reads:

R^{33} is H or C_{1-3} alkyl.

Herein, the clear absence of the term "optionally substituted," means that the C_{1-3} alkyl group of R^{33} is **not substituted**.

The Office has attempted to read a definition from another part of the variable definitions into the definition for the term "R^{33}." As the Office admits in the present action, the relied upon disclosure in the present application relates to alkyl groups defined as "optionally substituted" under the definition of "heteroarylalkyl" in paragraph [0077]. However, paragraph [0077], as cited by the office in the present action, relates to peak plasma concentrations of active compounds. *Paragraph [0062]* of the specification defines "heteroarylalkyl" as, emphasis added, a group "comprising a heteroaryl group covalently linked to an alkyl group, either of which is independently optionally substituted or unsubstituted." This portion of the specification is only discussing the definition of a "heteroarylalkyl" group and **the location of optional substituents within the heteroarylalkyl group**. The referenced alkyl group is, by definition, part of the heteroarylalkyl group. The optional substitution of a **heteroarylalkyl group** cannot be read into the definition for a simple **C_{1-3} alkyl** group and would not be so read by one or ordinary skill in the art.

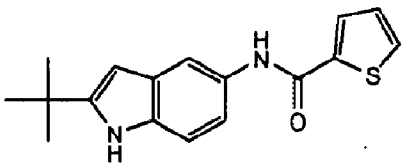
Furthermore, the applicants use of the term "optionally substituted" in the definition of R^{44}. To construe moieties such as "C_{1-3} alkyl" in R^{33} to include "optionally substituted C_{1-3} alkyl" would be to make the term "optionally substituted" meaningless.

Accordingly, the present rejection over Fritz, *et al.* is improper as the claims to not read on the allegedly anticipatory compounds, that is, R^{33} is not a "substituted C_{1-3}alkyl", much less the amino-substituted alkyl required by the teachings of Fritz. Applicants respectfully request reconsideration and withdrawal of the rejection.

Rejections under 35 U.S.C. 103(a)

(a) Claims 25, 28, 29, 42 – 46 over Peakdale catalog compound from IDS

Claims 25, 28, 29, 42 – 46, directed to ***compositions*** comprising a pharmaceutically acceptable carrier, excipient, or diluent together with a compound as defined by the formula in Claim 25, currently stand rejected in light of the ***compound***,



as disclosed in the Peaksdale catalog and as disclosed in the IDS filed on 9/20/2007.

In the present action, the Office has alleged that the preceding compound reads on the present claims when L^{11} is a bond; R^{11} is H; R^{33} is H; R^{44} is an optionally substituted monocyclic heteroaryl; and R^{22} is a t-butyl group. Furthermore, the Office has alleged that according to a statement from Peakdale, Inc. ("Peakdale communication", emphasis in Office action), "the company … sent advertisement flier of the Compound 281 to their potential customer on 1990s for drug screening purpose in drug discovery research." On the basis of the preceding interpretation of the Peakdale communication, the Office has cited the generic disclosure of the use of a buffer solution for drug screening of pharmaceutical discovery compounds in Wabnitz (*Rapid Commun. Mass Spec.* **2002**, *16*, 85-91) to allege that the present composition claims are obvious over the combinations of the Peakdale catalog, Peakdale communication, and Wabnitz.

Applicants note in a recent decision by the CAFC in *Takeda Chemical Industries v. Alphapharm Pty., Ltd.,* 83 USPQ2d 1167 (CAFC 2007), the CAFC held that,

> ..while the *KSR* court rejected a rigid application of the teaching, suggestion, or motivation ("TSM") test in an obviousness inquiry, the Court acknowledged the

> importance of identifying "a reason that would have prompted a person skilled in the relevant field to combine the elements in the way the claimed new invention does" in an obviousness determination. *KSR,* 127 S. Ct. at 1731. Moreover, the Court indicated that there is "no necessary inconsistency between the idea underlying the TSM test and the Graham analysis." *Id.* As long as the test is not applied as a "rigid and mandatory" formula, that test can provide "helpful insight" to an obviousness inquiry. *Id.* Thus in many cases involving new chemical compounds, it remains necessary to identify some reason that would have led a chemist to modify a known compound in a particular manner to establish a prima facie case of obviousness.

The Peakdale communication cited by the Office is silent with respect to the clients to which Compound 281 was advertised and with respect to **any** possible uses of the compounds advertised by Peakdale. The Peakdale communication only states that Compound 281 was part of a family of compounds manufactured for **screening purposes**. Such screening purposes are not further described in the Peakdale communication. No utility or even potential utility was disclosed or suggested for the compound in the Peakdale catalog. In particular, neither the Peakdale catalog nor any other art suggested that the Peakdale compound would be useful for pharmaceutical purposes. Compound 281 could have been screened for its aromatic properties for use in a perfume or air-freshener, for example. The Peakdale communication does not support the Office's allegation that the compound was advertised for "drug screening purpose[s] in drug discovery research." The Office has not provided any scientifically-based reasons that one skilled in the art would believe that Compound 281 in the Peakdale catalog has **any** medicinal use.

Furthermore, the Office has not presented any reasons that one skilled in the art would select compound 281 as opposed to

(i) any commercially available chemical compound; or

(ii) any commercially available compound from Peakdale; or

(iii) any of the Peakdale catalog entries cited in the IDS from 9.20.2007

and to prepare the instantly claimed compositions.

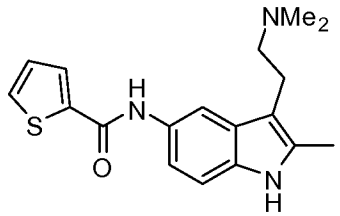
Further, the Office has not established a reason one skilled in the art would "screen" compound 281 as a composition for the anti-HCV activity discovered by the Applicants. Neither the Peakdale catalog nor the Peakdale communication provide any teaching or suggestion that Compound 281 or a composition comprising Compound 281 would have anti-HCV activity. Given only the Peakdale catalog, the Peakdale communication, and Wabnitz, one skilled in the

art could not have a reasonable expectation of success in obtaining a composition having anti-HCV properties when screening Compound 281 as part of a composition as taught by Wabnitz.

Accordingly, the Office has failed to provide a *prima facie* case of obviousness of the present composition claims with respect to any combination of the Peakdale catalog, Peakdale communication or Wabintz. The Office has not provided any reason for one skilled in the art to prepare the presently claimed compositions by combining the disclosure of Wabnitz with the Peakdale catalog. The disclosure of the Peakdale communication does not remedy this defect, as noted above. Applicants respectfully request reconsideration and withdrawal of the rejection.

(b) Claims 25, 28, 29, 42 – 46 over Fritz et al. (US Patent No. 5,998,630)

Claims 25, 28, 29, 42 – 46 currently stand rejected as obvious in light of the compound,



as disclosed in Fritz. In the present action, the Office has alleged that the preceding compound reads on the present claims when L^{11} is a bond; R^{11} is H; R^{22} is C_{1-6}alkyl; R^{33} is H or ***C_{1-3}alkyl***; and R^{44} is an optionally substituted C_{3-6} monocyclic heteroaryl group. Further, the Office has alleged that Fritz discloses compounds with "R^{22} as C_{1-4} alkyl."

Applicants traverse and again refer to the recent decision by the CAFC in *Takeda Chemical Industries v. Alphapharm Pty., Ltd.,* 83 USPQ2d 1167 (CAFC 2007), *supra*.

Fritz clearly **requires** that the compounds disclosed therein contain an **amino-substituted alkyl group** at the equivalent position to R^{33} in the presently claimed compounds. See, for example, Formulas I and II in Column 2 and the compounds listed in Columns 7 - 12 of Fritz. Applicants refer to their previous discussion of Fritz with respect to the present claims not claiming compounds having a substituted alkyl groups at R^{33}. Furthermore, the Office has not provided any scientific based reasoning for one skilled in the art to modify the compounds disclosed in Fritz to **remove the amino-substitution** from the alkyl group at the R^{33} position.

Accordingly, Applicants submit that the present obviousness rejection is improper for failing to expressly or inherently disclose all the present claim limitations and for failing to provide any scientifically based reasoning to modify the prior art to yield a composition having

the presently disclosed HCV antagonistic properties with any reasonable expectation of success. Applicants respectfully request reconsideration and withdrawal of the rejection.

CONCLUSION

Applicants respectfully submit that all requirements of patentability have been met. Allowance of the claims and passage of the case to issue are therefore respectfully solicited.

If the Examiner has any questions or comments regarding this Amendment, they are encouraged to contact the undersigned as indicated below.

Respectfully submitted,

Date: August 14, 2008

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